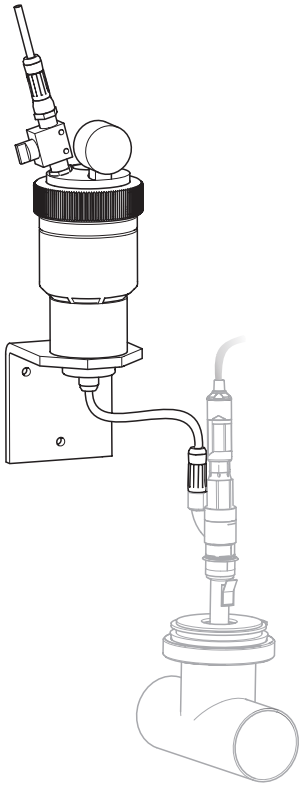
Level Pressure Flow Temperature Liquid Analysis Registration Systems Components Services Solutions

Operating Instructions

CPY7

Electrolyte vessel



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1 Safety instructions

1.1 Designated use

The electrolyte vessel is designed:
- To provide unpressurized or pressurized electrodes with liquid electrolyte
- To create an electrolyte bridge in measuring systems with a reference electrode.

Any use other than that described here compromises the safety of persons and the entire measuring system and is, therefore, not permitted.
The manufacturer is not liable for damage caused by improper or non-designated use.

1.2 Installation, commissioning and operation

Please note the following items:
- Installation, commissioning, operation and maintenance of the measuring system must only be carried out by trained technical personnel. The technical personnel must be authorized for the specified activities by the system owner-operator.
- Technical personnel must have read and understood these Operating Instructions and must follow the instructions they contain.
- Before commissioning the entire measuring point, check that all connections are correct. Ensure that hose connections are not damaged.
- Do not operate damaged products and secure them against unintentional commissioning. Mark the damaged product as being defective.
- Measuring point faults may only be rectified by authorized and specially trained personnel.
- If faults cannot be rectified, the products must be taken out of service and secured against unintentional commissioning.
- Repairs not described in these Operating Instructions may only be carried out at the manufacturer's or by the service organization.

1.3 Operational safety

The product is designed to meet state-of-the-art safety requirements, has been tested and left the factory in a condition in which it is safe to operate. Relevant regulations and European standards have been observed.

As the user, you are responsible for complying with the following safety conditions:
- Regulations on explosion protection
- Installation instructions
- Local prevailing standards and regulations.

2 Identification

2.1 Device designation

2.1.1 Product structure

	Application		
	A	Unpressurized	
	B	10 bar maximum	
		Mounting method	
		0	Wall
		1	Dipsys CPA111/140
CPY7-			Complete order code

2.2 Scope of delivery

The scope of supply comprises:
- 1 electrolyte vessel
- 1 spacer tube
- 3 m (9.8 ft) PTFE pressure hose 4/6
- Operating Instructions BA128C
- Additionally, depending on device version
  - 1 fixing bracket (CPY7-A0, CPY7-B0)
  - 1 threaded joint Pg 9 (CPY7-A0, CPY7-B0)
  - 2 hose unions with check valve (CPY7-B0, CPY7-B1)
  - 1 air pump connection (CPY7-B0, CPY7-B1)
  - 0.5 m (1.7 ft) spiral pressure hose (PA12W) (CPY7-B1)
  - 1 hose connector (CPY7-B1)

3 Installation

3.1 Incoming acceptance, transport and storage

- Make sure the packaging is undamaged!
  Inform the supplier about damage to the packaging. Keep the damaged packaging until the matter has been settled.
- Make sure the contents are undamaged!
  Inform the supplier about damage to the delivery contents. Keep the damaged products until the matter has been settled.
- Check that the scope of delivery is complete and agrees with your order and the shipping documents.

- The packaging material used to store or to transport the product must provide shock protection and humidity protection. The original packaging offers the best protection. Also, keep to the approved ambient conditions (see "Technical data").
- If you have any questions, please contact your supplier or your sales center responsible.

3.2 Instructions for installing in pressurized systems

- Only operate the explosionproof version CPY7-B in pressurized systems.
- Never exceed the maximum permitted pressure of 10 bar/145 psi at 30 °C/86 °F.
- Only use the pressure hose supplied.
- Before installing and removing the electrolyte vessel, ensure the system is unpressurized and vent the vessel where necessary.
- In the event of severely fluctuating medium pressure:
  Regulate the pressure in the electrolyte vessel in such a way that it is always above the medium pressure.
- Check the threaded joints, taps and hoses regularly for leaks and damage.

3.3 Installation instructions

3.3.1 Securing to wall (CPY-*0)

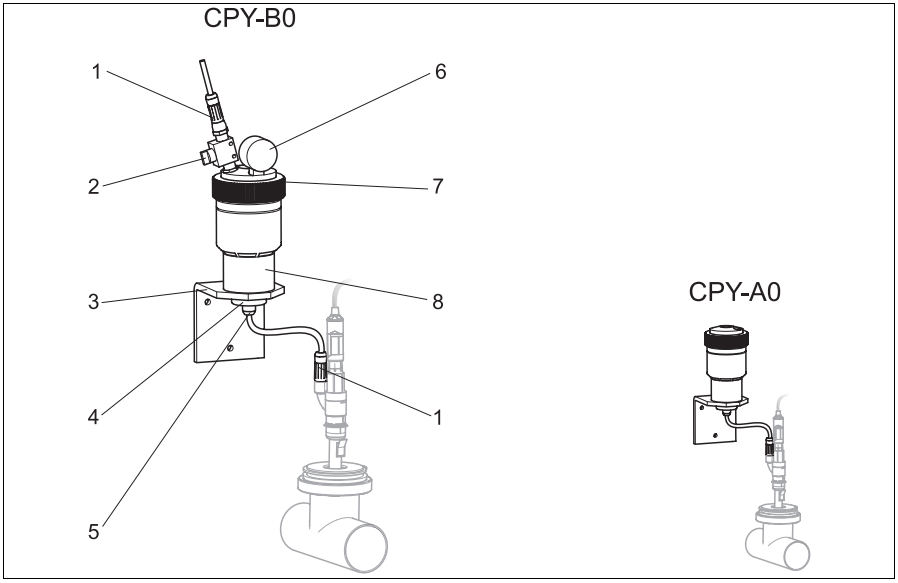


Fig. 1: Wall mounting

1	*Hose union with check valve*	*5*	*Hose connection*
2	*Manually operated valve*	*6*	*Pressure gauge (accessory)*
3	*Fixing bracket*	*7*	*Coupling nut*
4	*Lock nut*	*8*	*Spacer tube*

3.3.2 Installing on an assembly (CPY-*1)

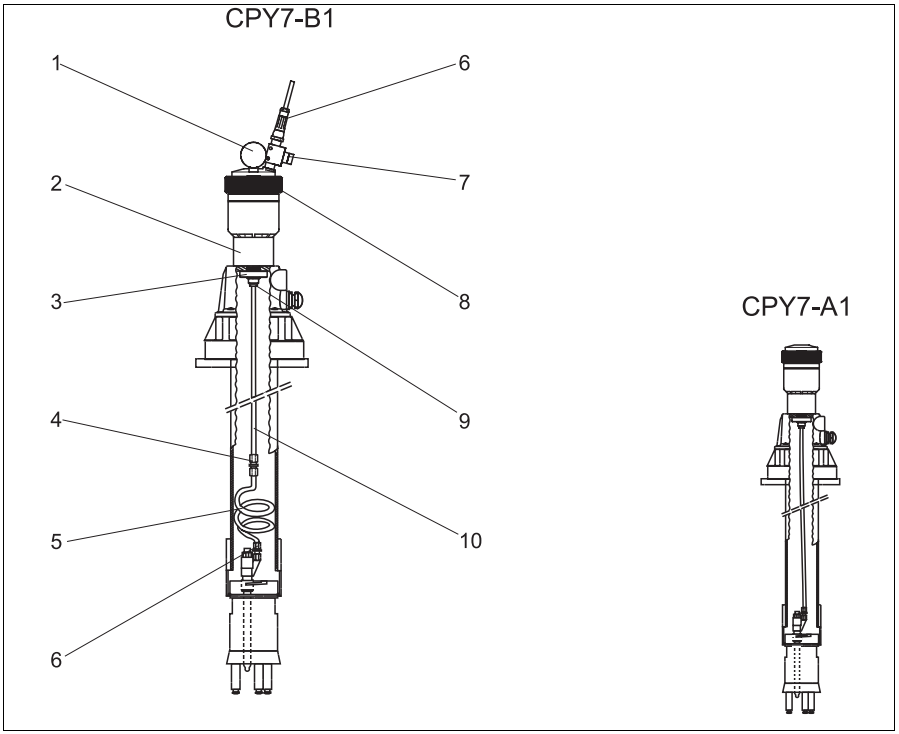


Fig. 2: Mounting on Dipsys CPA111 assembly head

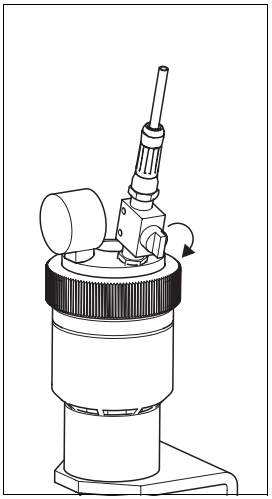
1	*Pressure gauge (accessory)*	*6*	*Hose union with check valve*
2	*Spacer tube*	*7*	*Manually operated valve*
3	*Lock nut*	*8*	*Coupling nut*
4	*Hose connector*	*9*	*Hose connection*
5	*Spiral hose*	*10*	*Pressure hose*

3.4 Post-installation check

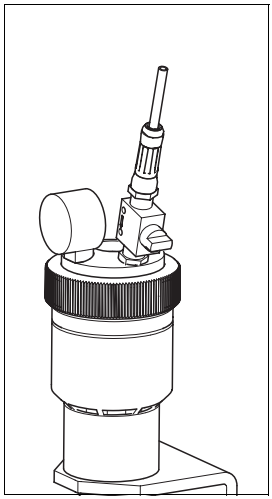
- After installation, check that all the connections are firmly in position and leak-tight.
- Ensure that the hoses cannot be removed without force.
- Check all hoses for damage.

4 Commissioning

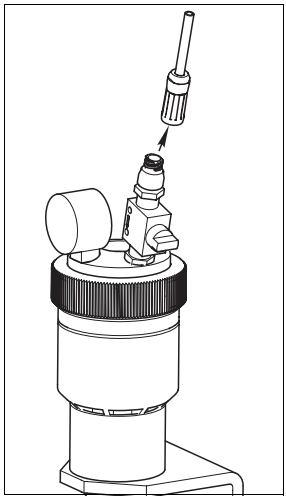
4.1 Topping up electrolyte (CPY7-B)



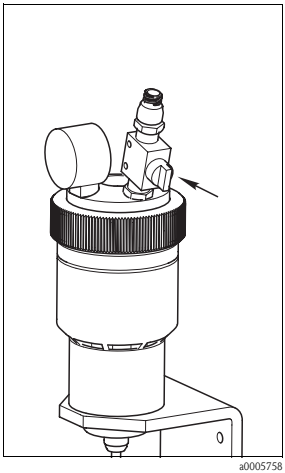
1. Operating status: Close manually operated valve.



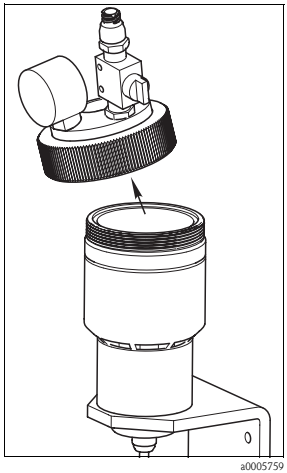
2. Compressed air shut off: Manually operated valve closed.



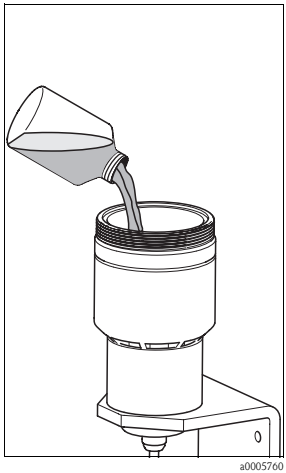
3. Release hose union.



4. Vent vessel: Open manually operated valve.



5. Remove top part: Release coupling nut.



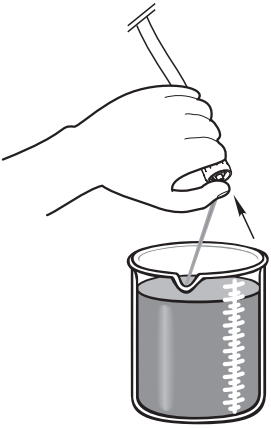
6. Fill with electrolyte: Up to vessel marking.

Note!
Steps 1–4 do not apply for the unpressurized version (CPY7-A).

4.2 Venting

Caution!
Having topped up the electrolyte, you have to vent the electrolyte hose.
Wear protective gloves for this purpose!

1. Release the electrolyte hose connection on the sensor.
2. Press in the tappet of the hose union until there is a flow of electrolyte:



3. Reconnect the electrolyte hose to the sensor.

4.3 Assembly

The assembly procedure is the reverse of the sequence for filling with electrolyte:

1. Fit the top part and tighten the coupling nut.
2. Close the manually operated valve.
3. Connect the hose union.
4. Open the manually operated valve.

5 Maintenance

⚠ Warning!
Maintenance work should only be performed when in an unpressurized state.

Release vessel pressure (only version CPY7-B)
- If using an air pump connection:
  – Release the valve nipple on the cover by one rotation (AF 19).
- If using a compressed air connection:
  – Cut off the compressed air supply at the manually operated valve (toggle bar in horizontal position).
  – Remove the compressed air hose (turn hose union 1 revolution counterclockwise).
  – Release the pressure from the vessel (toggle bar of manually operated valve in vertical position).

Routine checks (all versions)
- Check all threaded joints regularly for leak-tightness and retighten if necessary.
- When lubricating polycarbonate parts, e.g. threaded joints, only use lubricants permitted for the material.
  Otherwise there is the danger of stress cracks occurring on the polycarbonate parts. Observe the instructions of the lubricant manufacturer.

6 Accessories and spare parts

6.1 Accessories

KCl solution CPY4
- Electrolyte solution, concentration 1.5 or 3 mol/l
- Volume 100 ml or 1000 ml

Diaphragm pipe CPY6
- For pH/redox measurement with bridge electrolyte
- order no. 50068478

Pressure gauge
- 0...16 bar, R1/8", D4
- order no. 71008039

6.2 Spare parts

Pressure hose
- ID 4 (0.16") / OD 6 (0.24"), length 3 m (9.8 ft)
- order no. 50013621

Spiral hose
- ID 4 (0.16") / OD 6 (0.24"), length 0.5 m (1.7 ft)
- order no. 71007969

Fixing bracket for wall mounting
- order no. 50069160

Compressed air mounting kit for CPY7-B
- order no. 51500507

Air pump connection mounting kit for CPY7-B
- order no. 51500506

Hose union with check valve
- order no. 51517699

KCl manually operated valve with coupling connection for CPY7-B
- order no. 71021028

7 Technical data

7.1 Process

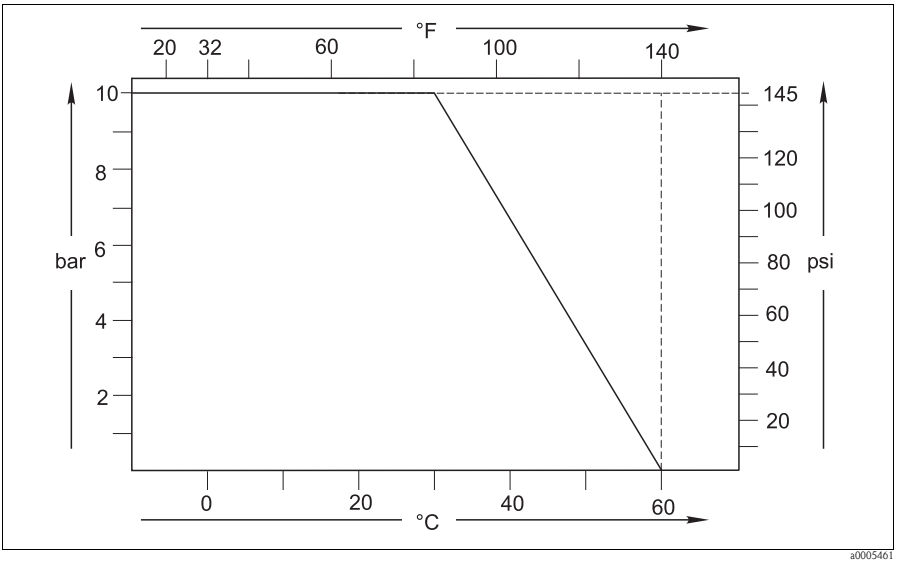
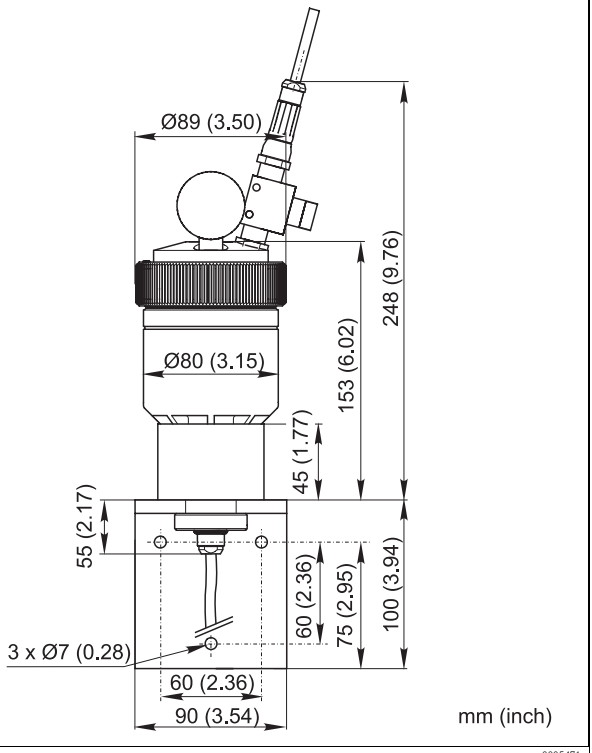


Fig. 3: Pressure-temperature diagram

Process temperature limits	30 °C at 10 bar (86 °F at 145 psi) 60 °C (140 °F) unpressurized
Process pressure limits	10 bar at 30 °C (145 psi at 86 °F), only version CPY7-B*

7.2 Mechanical construction

Dimensions (all versions)	 a0005471	
Weight	0.450 kg (1 lbs)	
Effective capacity	150 ml (5.1 fl.oz.)	
Material	Pressure vessel O-rings Unpressurized hose Pressure hose Spiral hose	Polycarbonate EPDM Silicone Polyethylene Polyurethane
Pressure connections	Pressure hose Valve for air pump	ID 6 (0.24") / OD 8 (0.31") Ø5 mm (0.2")
Electrolyte hose connection	ID 6 (0.24") / OD 8 (0.31")	
Reference electrode installation point	Threaded joint Maximum reference electrode shaft length	Pg 13.5 120 mm (4.72")

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